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Edward Brush

There are many approaches to learning, but Professor Edward Brush of the Chemistry Department is keen on the learning by doing approach. Professor Brush, along with a team of colleagues from the sciences and humanities, is spearheading a newly established undergraduate research program at Bridgewater in which students work with faculty members on original research projects. These projects, which can be conducted with faculty from any academic discipline, are designed to provide the students with an understanding of the rigor, the thought process and the skills necessary to conduct original research.

Professor Brush is co-coordinator of The Bridgewater State College Undergraduate Research Opportunities Program (BUROP), which is supported by a $50,000 grant from the Bridgewater Foundation. Professor Brush, along with fellow coordinator Andrew Harris of History, and BUROP Advisory Board members Kevin Curry of Biology, Ann Brunjes of English and Peter Saccocia of Earth Sciences and Geography, first discussed the role of student/faculty research at the Center for the Advancement of Research and Teaching (CART) Celebration in May of 2000. President Tinsley gave her enthusiastic support and asked the group to prepare a proposal for a campus-wide undergraduate research program, which was subsequently funded by the Bridgewater Foundation.

The BUROP initiative needed little time to attract the attention of Bridgewater undergraduates. In April of this year, Professors Brush and Harris organized the first Bridgewater Undergraduate Research Symposium in the Moakley Center. Over 150 students, faculty, administrators and invited guests attended the Symposium, and were treated to research poster and oral presentations from over 30 undergraduate students. Professor Brush believes that the Symposium is the first such event in the Massachusetts State College System, and hopes that BUROP will become a model for undergraduate research that will be followed by other state colleges in the future.

The BUROP Advisory Board has also awarded ten Bridgewater students stipends of $2,700 to work on their own independent research projects this summer, under the direction of a Bridgewater faculty mentor. In conjunction with the summer program BUROP also offers travel grants to students who wish to attend a scholarly conference to present their research findings. At last count six students received BUROP funding to present the results of research carried out over the past six months. Furthermore, the BUROP initiative has also spawned other undergraduate funding opportunities such as the NCUR/Lancy Foundation Grant being coordinated by Professors Kevin Curry in Biology and Celito De Ramos-King of the Chemistry Department. This grant will support ten Bridgewater students from biology, chemistry, earth sciences and geography and political science working together as a team to access the environmental impact of rapid growth and development on southeastern Massachusetts.

The early success of the BUROP initiative is personally rewarding to Professor Brush. As an undergraduate at King's College in Pennsylvania, he participated in a research project that set him on a career track toward a Ph.D. Professor Brush is quick to point out that he doubts whether he would have developed such a strong interest in both teaching and conducting research in chemistry without his own undergraduate research experience. Engaging in undergraduate research shows students what they are capable of doing and gives them the tools to succeed. Moreover, doing a research project prepares them for the demands of the workplace and gives them the confidence that they will need to compete for jobs.

Besides administering and developing the BUROP initiative with his colleagues, Professor Brush is a chemistry scholar in his own right. He is currently working on designing and synthesizing small molecule enzyme inhibitors with potential chemotherapeutic applications, and is developing "Green Chemistry" strategies to make the organic chemistry lab more environmentally friendly. Professor Brush will be working with four BSC undergraduates in the chemistry department this summer, and he was recently awarded a Cottrell College Science Grant from the Research Corporation that will allow him to continue his research with students through the next two years. Of course Professor Brush fits in all his BUROP activities and his own research around a busy teaching schedule that includes a freshman course in Chemical Principles, and Introductory Organic Chemistry. Professor Brush makes the transition from classroom to research to working with undergraduates with ease in large part because he is convinced that learning by doing is the key to knowledge and one of the best foundations for career preparation.